catalysates during the experiment. Table 1 illustrates the aromatization of n-heptane and cyclohexane under atmospheric pressure. Hence it is clear that the above-mentioned differences in the behavior of catalysts are not due to admixtures of other metal oxides in silica gel. Table 2 gives data on the phase composition and magnetic properties of the catalysts I-IX investigated by the authors. Hence, these catalysts can be classified into two groups: 1) radiographically amorphous, paramagnetic - samples II. and III. The temperature dependence of their susceptibility follows the law of Curie-Weiss. This allowed the calculation of the magnetic moment (3.2μ B). 2) Samples IV-IX are antiferromagnetic. All their radiographic lines were identified as lines of Cr_2O_3. Sample VIII produced from sample I by heating in the hydrogen current without alcohol treatment, thus contained crystalline Cr_2O_3, like samples V. and VI. Sample III however, which was produced by heating sample II in the H_2 current, proved to be radiographically amorphous, and paramagnetic. The authors assume that CrO_3 in the first case is immediately reduced into Cr_2O_3, and by alcohol treatment in the second case develops some intermediate compound of chromium not affected by air. This intermediate compound however, produces the crystalline Cr_2O_3 when heated in the air current. This intermediate compound possibly is a chromium silicate developing during the alcohol

86043

S/020/60/135/003/027/039
B016/B054

15.8114 also 1164

AUTHORS: Nesmeyanov, A. N., Academician, Rubinshteyn, A. M., Dulov, A. A., Slinkin, A. A., Rybinskaya, M. I., and Slonimskiy, G. L.

TITLE: Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 609 - 612

TEXT: The authors report on the continuation of their investigations of the properties of polymers produced on the basis of methyl-β-chloro-vinyl ketone (Refs. 1,2). These polymers show important electrical and magnetic properties; besides, they activate the oxidation and dehydrogenation of alcohols. In the present paper, the authors studied their physical properties, particularly their catalytic activity. Methyl-β-chloro-vinyl ketone polycondenses itself automatically when standing for 20-25 days with simultaneous separation of HCl. The formula $H(-C(COCH_3)=CH-)_nCl$ is

Card 1/4

Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

S/020/60/135/003/027/039
B016/B054

ascribed to the resulting mixture of polymers. The best polycondensation is attained in a sealed ampoule. Otherwise, too much triacetyl benzene is formed. On prolonged heating to 400°C in vacuo (12 torr), the polymers change (with simultaneous separation of water). Their carbon content increases. Apparently, there occurs a croton polycondensation on two adjacent acetyl groups each within the chain, or a polycondensation between individual chains by acetyl groups. The authors assume that practically both processes take place, since a certain oxygen amount of the carbonyl groups is always left in the polymer. The authors studied the properties of polymers heated with and without ferric chloride at 400°C/12 torr for 6 h. Table 2 and Fig. 1 show their most important physical characteristics as well as those of activated carbon and graphite. A comparison with activated carbon (natural carbon polymer) shows that the polymers investigated have a very small specific surface (S) and a relatively large amount of unpaired spins. Fig. 1 shows data of the change in specific electrical conductivity (σ) with temperature. Therefrom, the authors calculated the activation energy of the conductivity (E_σ, Table 2). They consider it possible that these polymers are semiconductors with a

Card 2/4

86043

Study of Catalytic Properties of Polymers Produced on the Basis of Methyl-β-chloro-vinyl Ketone

S/020/60/135/003/027/039
B016/B054

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

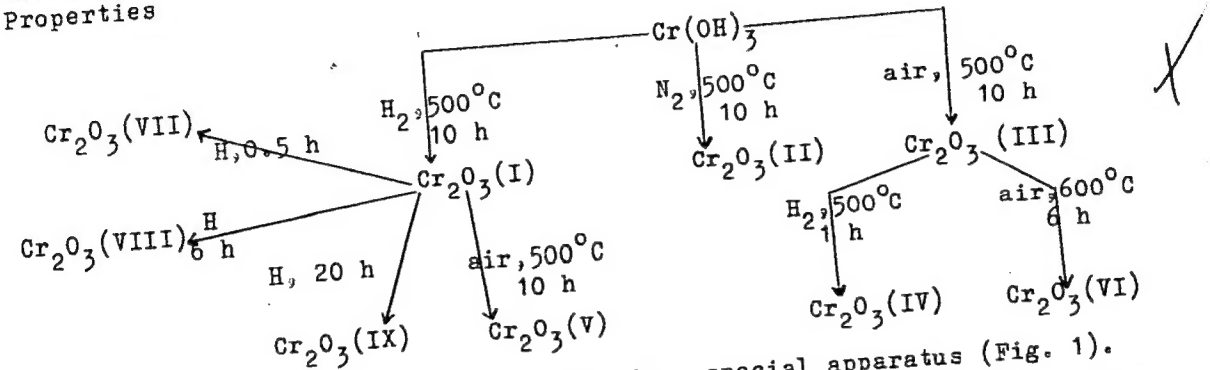
SUBMITTED: August 14, 1960

Card 1/1

84577

Effect of the Treatment of Chromium Oxide Catalysts With Gases Under Various Conditions Upon Their Catalytic and Magnetic Properties

S/020/60/134/001/036/038/XX
B004/B064



Cr_2O_3 was treated with atomic hydrogen in a special apparatus (Fig. 1). H formed in vacuum at a voltage of 10,000 - 12,000 v and 1 - 2 mm Hg, and was sucked through the Cr_2O_3 sample. Subsequently, catalysis was made in the same apparatus under the exclusion of air. Table 1 shows the temperature dependence of χ for the various Cr_2O_3 preparations.

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84577

Effect of the Treatment of Chromium Oxide Catalysts With Gases Under Various Conditions Upon Their Catalytic and Magnetic Properties

S/020/60/134/001/036/038/XX
B004/B064

No. of sample	$\chi \cdot 10^6$ 20°C	50°C	80°C	160°C	Δ°,K	μ_B	No. of sample	$\chi \cdot 10^6$ 20°C	50°C	80°C	160°C
I	24.0	25.3	24.4	23.3			VI	24.4	25.2	23.4	23.0
II	23.0	25.0	23.6	22.9			VII	92.0	-	-	-
III	340.0	-	-	-			Ia	96.0	-	-	-
IV	28.0	-	25.8	24.0	500	3.7	IIa	21.8	-	22.1	20.8
V	22.8	24.3	23.3	22.8							

The samples Ia and IIa were prepared from impure Cr_2O_3. The ferromagnetism of sample Ia is caused by impurities. The ferromagnetism of III is, however, not due to impurities and occurs only when Cr_2O_3 is treated with air at 600°C. The authors assume that CrO_2 forms in low yields. This new phase could, however, not be confirmed by X-ray- and electron diffraction pictures. Table 2 gives the results of the catalytic decomposition of isopropanol and the dehydrogenation of cyclohexane by means of the samples.

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84577

Effect of the Treatment of Chromium Oxide Catalysts With Gases Under Various Conditions Upon Their Catalytic and Magnetic Properties

S/020/60/134/001/036/038/XX
B004/B064

Different activity, selectivity, and activation energy were found to exist. The dehydrogenation of C_6H_{12} was reduced both in the ferromagnetic sample III and the antiferromagnetic sample IX, and the dehydration of $i\text{-}C_3H_7OH$ increased. Herefrom, the authors infer the presence of hydroxyl groups on the catalyst surface. Their origin is, for IX, explained by the chemosorption of atomic H, for III by the interaction of CrO_2 with H_2 forming at the beginning of the reaction. The inactivation of sample I by treatment with water vapor and subsequent regeneration with H_2 at 500°C confirmed the inhibiting effect of the OH group upon the dehydrogenation of C_6H_{12}. The authors came to the result that it is not possible to draw conclusions from the magnetic and electrical properties upon the surface structure that determines the catalytical properties only. There are 1 figure, 2 tables, and 13 references: 5 Soviet, 5 US, 3 British, and 2 German.

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84577

Effect of the Treatment of Chromium Oxide Catalysts With Gases Under Various Conditions Upon Their Catalytic and Magnetic Properties

S/020/60/134/001/036/038/XX
B004/B064

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: May 17, 1960

Card 5/5

AKIMOV, V.M.; SLINKIN, A.A.; RUBINSHTEYN, A.M.; SHUYKIN, N.I.; KONONOV, N.F.; KASHKOVSKAYA, L.K.

Effect of spinel formation on the regenerative capacity of the Ni - A_2O_3 catalyst. Izv. AN SSSR. Otd.khim.nauk no.8:1516-1518 Ag '61. (MIRA 14:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Spinel) (Catalysts)

29733
S/190/61/003/011/002/016
B124/B101

15.8340

AUTHORS: Korshak, V. V., Slinkin, A. A., Vinogradova, S. V., Babchinitser, T. M.

TITLE: Study in the field of coordination chain polymers. VIII. Coordination polymers based on bis-(8-hydroxyquinolyl)methane, quinizarin, and 4,4'-bis-)acetoacetyl)phenyl ether

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 11, 1961, 1624-1632

TEXT: The synthesis of mixed coordination polymers of bis-(8-hydroxyquinolyl)methane (I) and quinizarin (II), (I) and 4,4'-bis-(acetoacetyl)phenyl ether (III) with various metals is described, and the magnetic properties of some coordination polymers of (II), (I), and (III) are studied. Compositions, structures, and properties of the synthesized coordination polymers are given. X-ray data indicate that the homogeneous coordination polymers exhibit a more or less ordered structure. The solubilities of the homogeneous and the mixed coordination

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Study in the field of...

polymers in organic solvents are extremely low; only the mixed coordination polymers of (I) and (III) with Cu are soluble in cresol. The temperature dependence of the magnetic susceptibility (x) as well as the magnetic moment and the Weiss constant calculated from the magnetic susceptibility are given for a number of coordination polymers on the basis of (II), (I), and (III). Conclusions as to the configurations of Co, Mn, and Ni in the polymers were drawn from the magnetic properties

The authors thank the staff of the Laboratories of INOES AN SSSR under the guidance of A. I Kitaygorodskiy and N. E. Gel'man. There are 3 figures, 3 tables, and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D. P. Craig, A. Maccoll, R S. Nyholm, L. E Orgel, L. E. Sutton, J. Chem. Soc. 1954, 332, 354.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental Organic Compounds, AS USSR), Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: November 16, 1960

Card 2/2

RUBINSHTEYN, A.M.; SLINKIN, A.A.; YAKERSON, V.I.; FEDOROVSKAYA, E.A.

Reduction of CeO_2 in the process of CH_3COOH ketonization. Izv. AN SSSR Otd.khim.nauk no.12:2235-2237 D '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cerium oxide) (Acetic acid) (Ketones)

28738
S/026/61/000/011/004/004
D038/D113

5 3700

AUTHORS: Kochetkova, N.S., Materikova, R.B., and Slinkin, A.A.

TITLE: Ferrocene

PERIODICAL: Priroda, no. 11, 1961, 98-100

TEXT: This article deals with the structure and application of various aromatic compounds, particularly ferrocene. Scientists from many countries, including A.N. Nesmeyanov of the USSR, are mentioned in connection with the development of ferrocene - a diamagnetic organometallic compound with a dipole moment equal to 0. X-ray analyses have shown that, in the ferrocene molecule, the iron atom is in the mean position between the cyclopentadienyl radicals lying in parallel planes, the carbon atoms of the upper ring being located above the gaps between the carbon atoms of the lower ring. Two horizontal five-membered rings with alligned CC and CH bonds rotate in parallel planes around the central iron atom, which is similarly connected with all ten carbon atoms. Nickelcene, cobaltocene and other similar compounds are likewise constructed. In the last few years, a sufficiently accurate idea of the electronic structure of these compounds was originated. In investigating the chemical properties of ferrocene, it can be readily seen that, in many reactions, the metal does not expose itself in the molecule and the reaction passes along the

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Ferrocene

poses. Data have been collected on heat-resistant ferrocene derivatives containing both iron and silicon atoms in their molecules. The chemistry of benzene, naphtalene, anthracine and other aromatic systems is being developed for similar purposes. In the very near future, new aromatic systems will come into being; the differences in their properties will depend not only on the difference in the substitution products but also in the central atoms of the metals which constitute the heart of the molecule. There are 6 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR /Moskva/ (Institute of Elemental Organic Compounds of the AS USSR/Moscow/).

Card 3/3

MATVEYEVA, I.V.; SLINKIN, A.A., kand.khim.nauk, otv. red.; DULOV, A.A., mladshiy nauchnyy sotr., nauchnyy red.; PRUSAKOVA, T.A., tekhn. red.; RYLINA, Yu.V., tekhn. red.

[Heterogeneous catalysis in organic chemistry; bibliographic index of Soviet and foreign literature (1958-1960)] Geterogennyi kataliz v organicheskoi khimii; bibliograficheskii ukazatel' otechestvennoi i zarubezhnoi literatury (1958-1960). Moskva, Izd-vo Akad.nauk SSSR, 1962. 275 p. (MIRA 15:7)

1. Akademiya nauk SSSR. Institut organicheskoy khimii. Sektor seti spetsial'nykh bibliotek.
(Bibliography--Catalysis)

3337
S/190/62/004/002/002/021
B110/B101

15 8340

AUTHORS: Kotlyarevskiy, I. L., Fisher, L. B., Dulov, A. A., Slinkin, A. A., Rubinshteyn, A. M.

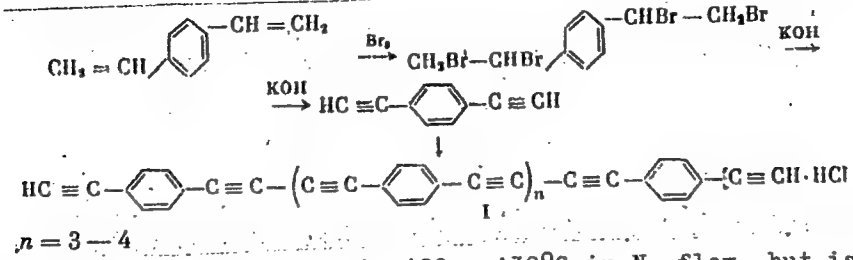
TITLE: Synthesis and some physical properties of poly-p-diethynyl benzene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 174 - 181

TEXT: Poly-p-diethinyl benzene with alternating ternary bonds and phenylene rings was synthesized from p-diethinyl benzene according to Yu. S. Zal'kind (Zh. obshch. khimii, 6, 530, 1936). The diethyl benzene mixture obtained during styrene production was dehydrogenated to divinyl benzene, brominated, dehydrobrominated, and polycondensed in water-alcohol or water-dioxane at 20 - 40°C in the presence of CuCl, NH_4Cl, and O_2 to orange-red, powdery oligomer (I) insoluble in water and organics:

Card 1/5

Synthesis and some physical...



It explodes under rapid heating to 120 - 130°C in N_2 flow, but is no longer explosive in the form of pressed tablets up to 140°C in N_2 flow. Thermogravimetric and quantitative studies showed that the color change (to black) at 400°C was not due to decomposition but to intramolecular polymerization and structuration processes. The conductivity of tablets pressed at 5000 atm was examined with direct current at $5 \cdot 10^{-3}$ mm Hg. The tablets were heated in N_2 flow for 20 hr. The conductivity is described by: $\sigma = \sigma_0 \exp(-E/kT)$. Resistance and activation energy of conductivity decrease with increasing heating temperature (220 - 600°C) $\sigma \approx 10^{-2}$ ohm^{-1}·cm^{-1}; E≈0.1 ev at 600°C). Ultraviolet irradiation of a sample heated at 220°C raises the conductivity

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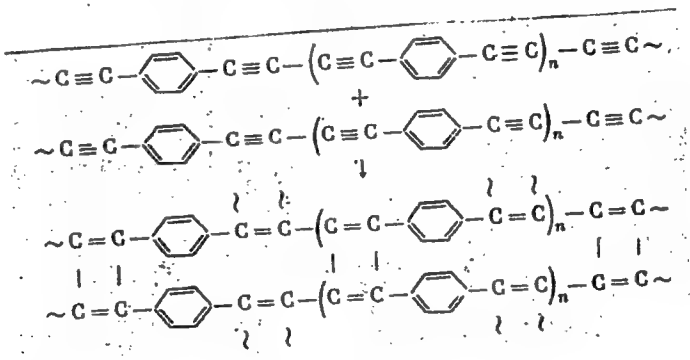
Synthesis and some physical...

reversibly by some orders. This effect decreases with increasing heating temperature (400°C) and disappears at 500 and 600°C completely. The sign of the thermo-emf and the reversible resistance decrease during oxygen adsorption confirm the hole character of the conductivity. The specific magnetic susceptibility of the initial oligomer determined between 20 and 160°C at H = 3500 - 4500 oersteds was $\chi = -0.4 \cdot 10^{-6}$, after pressing at 5000atm: $\chi = -0.2 \cdot 10^{-6}$. The maximum number of unpaired electrons exists on heating to 220°C, maximum χ value at 400°C, while ferromagnetic H dependence on χ was observed. The intensities of the epr signal as dependent on heating (2 hrs) in vacuo and N_2 (0.5% O_2) pass through a maximum at ~220°C. X-ray studies with an УРС-55(URS-55) device showed increasing crystal formation (favored by pressing) with increasing heating temperature. The electric and magnetic properties of slightly heated amorphous samples are determined by individual unpaired electrons and energetic barriers between the loosely bound, conjugated sections while ultraviolet irradiation increases the number of current carriers. At higher temperatures, the individual conjugated sections are combined to microcrystalline domains, and the number of electrons which have not yet entered the domain of strong interaction

33374
S/190/62/004/002/002/021
B110/B101

Synthesis and some physical...

decreases. At a certain stage, further crystal growth gives rise to formation of diamagnetic graphite structures. At 400, 500, 600°C, electric resistance and activation energy of conductivity decrease with increasing heating temperature due to the presence of strongly interacting electrons. Two types of structurally different polymers are likely to exist. The conversion of the orange-colored, explosive initial polymer at 200°C is likely to proceed according to:



Card 4/5

33374

Synthesis and some physical... S/190/62/004/002/002/021
B110/B101

At higher temperatures, domains are formed with ferromagnetic electron interaction due to cross linking which are superposed by diamagnetic interaction on further crystallization. Tal'roze is mentioned. There are 4 figures, 4 tables, and 14 references: 11 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: A. S. Hay, J. Org. Chem., 25, 1275, 1960; D. D. Eley et al., Disc. Faraday Soc., 28, 55, 1959.

ASSOCIATION: Institut khimii Vostochno-sibirskogo filiala AN SSSR (Institute of Chemistry of the East Siberian Branch AS USSR). Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy AS USSR)

SUBMITTED: January 30, 1961

Card 5/5

dealt with in a communication by I. L. Kotlyarevskiy, L. B. Fisher, A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn (Ref. 6: Vysokomolek. soyed., 4, no. 1 (1962)). Where the degree of conjugation of the polymer is not too low, the electric characteristics are determined by the second factor. This is confirmed by the following: if methylene bridges, which reduce conjugation along the chain, are introduced in the macromolecule (polymer 2 in Table 1), the semiconductor properties are not destroyed but rather intensified (E_σ decreases), as the mobility of chains and the packing density increase, promoting electron interaction between the chains. With introduction of the group $-CH_2-CH_2-$ (polymer 3), the reduction of conjugation is so intense that it is no longer compensated by an increase in packing density. In all the polymers investigated, the effect of relaxation polarization (reversible decrease of electrical conductivity on application of direct current) was observed. It is due to the translation of charged sectors of the polymer chains in the electrostatic field. The temperature of this polarization (200°C) is 30-50°C lower for polymer 3, than for the others, which shows that chain mobility is highest with this polymer. Similar results were obtained for the electric properties of polyferrocenes (Ref.7: A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn, Vysokomolek. soyedin.,

4 (1962)). A. A. Berlin assisted in the present work. There are 2 figures and 1 table. The English-language references read as follows:
D. D. Eley. G. D. Parfitt, Trans. Farad. Soc., 51, 1529 (1955);
M. Hatano, S. Kambara, S. Okamoto, J. Polymer Sci., 51 (156), 26 (1961).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR). Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: January 5, 1962, by B. A. Kazanskiy, Academician

SUBMITTED: January 2, 1962

Legend to Table 1: (I) Structural formula of the polymer; (II) molar weight; (III) activation energy of the electrical conductivity, E_σ (120 - 250°C), ev; (IV) σ_o, $ohm^{-1} \cdot cm^{-1}$; (V) irreversible change in σ after heating; (VI) number of unpaired spins per g of N (on the basis of epr);

ACCESSION NR: AP3002300 S/0062/63/000/006/1140/1141

AUTHOR: Slinkin, A. A.; Dulov, A. A.; Rubinshteyn, A. M.

TITLE: Catalytic properties of chelate polymers

SOURCE: AN SSSR. Izv. Otdeleniye khimicheskikh nauk, no. 6, 1963, 1140-1141

TOPIC TAGS: chelate polymers, polymerization, styrene, catalytic polymerization, nickel, cobalt, magnesium, copper, zinc

ABSTRACT: Because of the special nature of the electrical, magnetic, and catalytic properties of chelate polymers, the catalytic activity of polymers of the structure indicated in formula (1) of the Enclosure have been studied. The polymers were synthesized at the laboratory of V. V. Korshak at the Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds AN SSSR). Study of their catalytic activity in styrene polymerization was made at the Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry AN SSSR). The polymerization was carried out under static conditions with vigorous

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ACCESSION NR: AP3002300

agitation at 77.4 plus or minus 0.05C with 0.1 g of the powdered chelate polymer catalyst and either 22 ml of pure styrene or a 1/1 solution of styrene in toluene. The reaction kinetics were observed dilatometrically. It was found that the rate of formation of polystyrene ranged from 0.020 to 0.067 g/hr for pure styrene and from 0.007 to 0.018 g/hr for the 1/1 solution. The catalytic activity of the chelates decreased in the order Cu sup +2 is greater than Mn sup +2 is greater than Ni sup +2; the chelates containing Zn or Co were inactive. Orig. art has: 3 formulas and 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry AN SSSR)

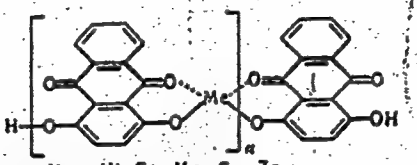
SUBMITTED: 23Jan63 DATE ACQ: 16Jul63 ENCL: 01

SUB CODE: 00 NO REF SOV: 005 OTHER: 000

Card 2/3

ACCESSION NR: AP3002300

ENCLOSURE: 01



(1)

where Me = Ni, Co, Mn, Cu, Zn

Card 3/3

SLINKIN, A.A.; FEDOROVSKAYA, E.A.; RUBINSHTEYN, A.M.

Electron paramagnetic resonance spectra and magnetic susceptibility of alumina-chromia catalysts. Kin.i kat. 4 no.2:230-238 Mr-Ap '63. (MIRA 16:5)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Catalysts—Magnetic properties) (Chromium oxides—Spectra)

DULOV, A.A.; SLINKIN, A.A.; RUBINSHTEYN, A.M.; KOTLYAREVSKIY, I.L.

Electric conductivity, electron paramagnetic resonance spectra, and the structure of polyarylene-polyacetylenes. Izv. AN SSSR. Ser. khim. no.11:1910-1920 N '63. (MIRA 17:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR, i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR.

DULOV, A.A.; SLINKIN, A.A.; RUBINSHTEYN, A.M.

Electric and magnetic properties of thermally treated polymers based on ferrocene. Vysokom. soed. 5 no.10:1441-1446 O '63. (MIRA 17:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

AKIMOV, V.M.; KLYACHKO-GURVICH, A.L.; RUBINSHTEYN, A.M.; SIMULIN, Yu.N.; SLINKIN, A.A.; SEMINA, R.T.

Study of catalysts for ammonia synthesis with different degrees of reduction. Izv. AN SSSR. Ser. khim. no.12:2208-2210 D '63. (MIRA 17:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SLINKIN, A. A.; LEVI, G. I.; KIPERMAN, S. L.

Calculation of the energy of bonds between the catalyst surface and the reacting atoms of organic molecules (on the article by V. Kh. Matiushenko "Theory of catalyst selection and the bond energy "). Zhur. fiz. khim. 37 no. 3:712-715 Mr '63. (MIRA 17:5)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

SLINKIN, A.A.; FEDOROVSKAYA, E.A.

Electron paramagnetic resonance spectra of products obtained from the high-temperature interaction of CrO_3 with $K_2Cr_2O_7$, K_2CrO_4, K_2CO_3, KCL, and KOH. Dokl. AN SSSR 150 no.2:328-330 My '63. (MIRA 16:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo. Predstavleno akademikom A.A.Balandinym.

(Chromium catalysts—Spectra) (Chromium oxides)
(Potassium dichromate)

ACCESSION NR: AP4010036 S/0062/64/000/001/0026/0034

AUTHOR: Dulov, A. A.; Slinkin, A. A.; Rubinshteyn, A. M.

TITLE: Electric and magnetic properties of products from the thermal treatment of polymethylvinylketone

SOURCE: AN SSSR, Izvestiya. Ser. khim., no. 1, 1964, 26-34

TOPIC TAGS: polymethylvinylketone, electric properties, magnetic properties, crystallinity, electric conductance, EPR spectra, polymethylvinylketone adsorption of oxygen, semiconductor, p type semiconductor, n type semiconductor, polymethylvinylketone thermal treatment

ABSTRACT: The electric conductance, nature of the EPR signal and crystallinity of polymers obtained by heating polymethylvinylketone at temperatures up to 870C in a nitrogen, hydrogen or air atmosphere were studied. The electric properties and nature of the effect of oxygen on the EPR signal and conductance differ sharply in polymethylvinylketone heated at low temperatures (400—500C) from those

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of the polymer heated to 670—870C: with increasing temperature oxygen has an increasing effect on the intensity and width of the EPR signal; the effect of oxygen on the conductance decreases; asymmetric EPR lines appear because of the graphitic nature acquired by the polymer particles. Below 570C the polymer, in a vacuum, behaves as an n-type semiconductor; in air, as the p-type. From the effects on the EPR spectra it is concluded that the adsorption of oxygen at temperatures up to 500C is due to chemosorption, but in the 570—600C range it is both chemical and physical adsorption. In the polymer treated at low temperature, the electric conductance is strongly affected by oxygen and is determined by the electron exchange between areas with a high degree of conjugation in the polymer. On increasing the temperature of treatment, the formation of unpaired electrons in the polymer is not due to a rupture of the C - C bonds, but to the formation of complexes with transfer of the charge. Orig. art. has: 7 figures and 3 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii Nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

ACCESSION NR: AP4010036

SUBMITTED: 01Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: MA, PH NO REF SOV: 009 OTHER: 006

Card 3/3

SLINKIN

RUBINSHTEYN, A.M.; YOSHT, F. [Iost, F.]; SLIKIN, A.A.

X-ray diffraction and magnetochemical studies of Ni-Al O catalysts for simultaneous hydrogenation and dealkylation of cresols. Izv.AN SSSR.Ser.khim. no.2:248-257 F '64. (MIRA 17:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR i Institut teoreticheskikh osnov khimicheskoy tekhniki Akademii nauk Chekhoslovatskoy Sotsialisticheskoy Respubliki, Praga.

LYUBARSKIY, G.D.; YEVZERIKHIN, Ye.I.; SLINKIN, A.A.; Prinimala uchastiye FEDOTOVA, G.A., studentka

Catalytic activity of solid solutions in the system nickel - copper. Kin. i kat. 5 no.2:311-318 Mr-Ap '64. (MIRA 17:8)

1. Fiziko-khimicheskiy institut imeni Karpova.

ACCESSION NR: AP4037243 S/0062/64/000/005/0909/0912

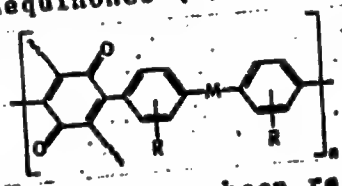
AUTHOR: Dulov, A. A.; Liogon'kiy, B. I.; Ragimov, A. V.; Slinkin, A. A.; Berlin, A. A.

TITLE: Electrical and magnetic properties of polyarylenequinones

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 5, 1964, 909-912

TOPIC TAGS: organic semiconductor, semiconducting polymer, polyarylenequinone

ABSTRACT: A study has been made of the electrical and paramagnetic properties of polyarylenequinones (I) with the general formula



and x-ray diffraction patterns have been recorded. Polymers I

Card 1/3

LACHINOV, S.S.; RUBINSHTEYN, A.M.; AKIMOV, V.M.; KLYACHKO-GURVICH, A.L.; KONYUKHOVA, I.N.; KUZNETSOV, L.D.; LEVITSKAYA, T.T.; PRIBYTKOVA, N.A.; SLINKIN, A.A.; CHESNOKOVA, R.V.

Complex investigation of iron catalysts for ammonia synthesis. Kin. i kat. 5 no.3:478-489 My-Je '64. (MIRA 17:11)

1. Institut organicheskoy khimii AN SSSR i Gosudarstvennyy institut azotnoy promyshlennosti.

L 11463-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL/AFWL RM/WW/JW/WE

ACCESSION NR: AP4045796 S/0062/64/000/009/1591/1598

AUTHOR: Davy*dova, I. R.; Kiperman, S. L.; Slinkin, A. A.; Dulov, A. A. B

TITLE: Catalytic activity of certain synthetic organic polymers

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 9, 1964, 1591-1598

TOPIC TAGS: organic semiconductor, semiconducting polymer, catalyst, catalysis, polymethyl vinyl ketone, polydiethynylbenzene, pyrolized polymer, hydrogen ortho para conversion, hydrogen para ortho conversion, hydrogen deuterium isotope exchange

ABSTRACT: A study has been made of the catalytic activity of synthetic conjugated polymers in ortho-para and para-ortho conversion of hydrogen, and in hydrogen-deuterium isotope exchange. The polymers used were poly(methyl vinyl ketone) pyrolyzed in nitrogen at 570—1000C, and poly-p-diethynylbenzene pyrolyzed in nitrogen at 500—600C; activated charcoal was used as a control. The two poly-

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L 11463-65
ACCESSION NR: AP4045796

3

mers showed catalytic activity in para-ortho conversion at 300—450C and in ortho-para conversion at -196C. These reactions were of the first order. The isotope-exchange reaction did not occur in the presence of the two polymers. Juxtaposition of the catalytic activity (reaction rate constants) for the two polymers with their physical properties such as electrical conductivity, activation energy for conduction, magnetic susceptibility, unpaired spin concentration, and specific surface suggests that para-ortho conversion proceeds via a mechanism which involves surface paramagnetic centers which are formed as a result of charge-transfer-complex formation. A. A. Balandin and A. M. Rubinshteyn are thanked for their interest in this research. Orig. art. has: 5 formulas, 5 figures, and 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 29Dec ENCL: 00

SUB CODE: OC, GC NO REF SOV: 013 OTHER: 009

Card 2/2

L 12012-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 AFWL/
BSD/SSD/ASD(a)-5/ESD(dp)/ESD(t) WW/RM
ACCESSION NR: AP4047395 S/0062/64/000/010/1769/1775

AUTHOR: Slinkin, A. A.; Dulov, A. A.; Rubinshteyn, A. M.

TITLE: Magnetic and electrical properties of chelate polymers B

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1964, 1769-1775

TOPIC TAGS: chelate polymer, coordinator polymer, organic semiconductor, semiconducting polymer, magnetic property, electrical property

ABSTRACT: A study has been made of the dependence of electrical and magnetic properties of earlier prepared coordination polymers of quinizarin or 5,5'-bis(8-hydroxyquinolyl)methane with Ni^{+2}, Co^{+2}, Mn^{+2}, Cu^{+2}, or Zn^{+2} on the monomer structure and on the metal. The temperature dependence of d-c electrical conductivity measured at 5×10^{-3} mm Hg in the 20—250C range with or without UV-light illumination for pellet samples obeyed an exponential law. In their electrical properties, therefore, the polymers were typical organic semiconductors. Electrical characteristics were only slightly de-

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L 12012-65
ACCESSION NR: AP4047395

pendent on the metal and the molecular weight, indicating the governing role of structure in giving rise to semiconductor properties. Measurement of magnetic susceptibility and EPR spectra showed that all the polymers were paramagnetic. Paramagnetism was determined not only by the behavior of the paramagnetic ions, but also by the specific properties of the chelate polymer as a whole, which contains an aromatic π-bond system. In particular, a narrow EPR signal was found in the spectrum of a polymer with the diamagnetic Zn^{+2} ion. Interpretation of the results involved ideas on charge-transfer complexes. Orig. art. has: 2 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 23Jan63 ATD PRESS: 3122 ENCL: 00

SUB CODE: OC, EM NO REF SOV: 009 OTHER: 001

Card 2/2

[illegible]

[illegible] and ferromagnetic resonance of nickel formate catalysts promoting the hydrogenation of fats. Dokl. AN SSSR 158 no.6[illegible] 1964. (MIRA 17:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom A.A. Balandinym.

DAVYDOVA, I.R.; KIPERMAN, S.L.; SLINKIN, A.A.; DULOV, A.A.

Catalytic activity of some synthetic organic polymers. Izv.AN SSSR. Ser.khim. no.9:1591-1598 S '64. (MIRA 17:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

SLINKIN, A.A.; FEDOROVSKAYA, E.A.

Occurrence of fine structure in the electron paramagnetic resonance spectrum of chromic oxide alloyed with Li^{+} ions. Dokl. AN SSSR 159 no.4:904-906 D '64 (MIRA 18:1)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom A.A. Balandinym.

RUBINSHTEYN, A.M.; PRIBYTKOVA, N.A.; AKIMOV, V.M.; KLYACHKO-GURVICH, A.L.; SLINKIN, A.A.; MEL'NIKOVA, I.V.

Complex investigation of iron catalysts for ammonia synthesis. Part 2: Structure and texture of doubly promoted precipitated catalysts. Kin. i kat. 6 no.2:285-293 Mr-Ap '65. (MIRA 18:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

L 60990-65 EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EWP(z)/EWP(b) Pc-4
Pr-4/Ps-4/Pt-7/Pu-4 WW/RM/WH

ACCESSION NR: AP5019788 UR/0076/65/039/007/1590/1594
538.113+547

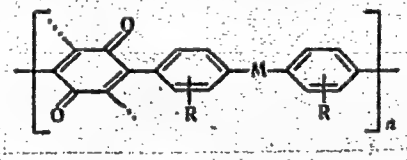
AUTHOR: Dulov, A. A.; Liogon'kiy, B. I.; Ragimov, A. V.; Slinkin, A. A.; Berlin, A. A.

TITLE: Study of the electric properties of polymeric semiquinones

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 7, 1965, 1590-1594

TOPIC TAGS: polyarylenesemiquinone, polyarylenequinone, electric conductivity

ABSTRACT: The electrical conductivity of polyarylenesemiquinones and the role played by unpaired electrons in the conductivity were investigated. The polymers had the general formula



It was shown that when polyarylenequinones are converted to polysemiquinones, the

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L 60990-65

ACCESSION NR: AP5019788

electrical resistance decreases, while the activation energy remains practically constant (in polymers which do not contain the sulfo group). At low temperatures, the increase in electrical conductivity resulting from the reduction of polyarylene-quinones to the semiquinone form is due to the appearance of unpaired electrons. During heating, recombination of the semiquinone radical centers takes place or quinhydrone complexes are formed. The rise in electrical conductivity is caused by the formation of segments having a greater number of conjugated bonds and by the increase in the exchange between these segments. Polarization at high temperatures in reduced polymers which do not contain the sulfo group is not related to the ionic conduction mechanism. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: Institut khimicheskoy fiziki, Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR); Institut organicheskoy khimii, Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 17Feb64 ENCL: 00 SUB CODE: OC, EM

NO REF SOV: 005 OTHER: 002

Card 2/2

L 52349-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP5011683 UR/0195/65/006/002/0285/0293

AUTHOR: Rubinshteyn, A. M.; Pribytkova, N. A.; Akimov, V. M.; Klyachko-Gurvich, A. L.; Slinkin, A. A.; Mel'nikova, I. V.

TITLE: A comprehensive study of ferric catalysts for ammonia synthesis II. Structure and grain of twice activated precipitated catalysts

SOURCE: Kinetika i kataliz, v. 6, no. 2, 1965, 285-293

TOPIC TAGS: ammonia, potassium compound, alumina, catalyst

ABSTRACT: The authors studied the effect of potassium oxide on the following properties of iron-alumina catalysts synthesized from coprecipitated hydroxides: specific surface, specific volumes and mean radii of pores (note: these three parameters define the term "grain" as used in this article), phase composition, magnetic susceptibility, saturation magnetization, and ferromagnetic resonance spectra. The addition of K_2O doubles the activity in comparison to catalysts activated only by Al_2O_3. The potassium oxide does not change the optimum quantity of Al_2O_3. The activity of a unit volume of the precipitated catalysts is close to that of fused catalysts of the same composition. The test specimens were made up with 8 different Fe_2O_3/Al_2O_3 ratios (see table 1 of the Enclosure). The samples were prepared in 4

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L 52349-65

ACCESSION NR: AP5011683 1

series: the first was the "control" series activated only by Al_2O_3; the other 3 series were activated by K_2O at various stages of synthesis. It was found that the later the stage at which the potassium oxide activation takes place, the less the grain of the catalyst is changed. X ray analysis indicated that the addition of an alkali has a strong stabilizing effect on the lattice of the maghemite phase, especially if the alkali is introduced at the hydroxide stage. This stabilizing effect on spinel structures depends on the state of the initial iron compounds. "Research conducted jointly with GIAP Laboratory Nr 3." Orig. art. has: 4 tables.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR (Institute of Organic Chemistry)

SUBMITTED: 01Mar63 ENCL: 01 SUB CODE: GC

NO REF SOV: 004 OTHER: 014

Card 2/3

L 27423-66 EWT(m)/EWP(j)/T RM
ACC NR: AP6024413 (N) SOURCE CODE: UR/0020/66/169/001/0111/0113

AUTHOR: Dulov, A. A.; Slinkin, A. A.; Rubinshteyn, A. M.; Kotlyarevskiy, I. L.; Shvartsberg, M. S.; Andriyevskiy, V. N.; Zanina, A. S.; Shergina, S. I. 56 B

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR); Institute of Chemical Kinetics and Combustion, Siberian Branch, Academy of Sciences, SSSR (Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Influence of disturbance of conjugation on the properties of semiconducting polymers

SOURCE: AN SSSR. Doklady, v. 169, no. 1, 1966, 111-113

TOPIC TAGS: semiconducting polymer, conjugated polymer, semiconductor conductivity

ABSTRACT: It has been frequently reported in the literature that the disturbance of conjugation in organic semiconductors as a result of either noncoplanarity of aromatic rings or introduction of aliphatic, oxygen, or sulfur bridges into the conjugated chain lowers the electric characteristics. In the present paper, the intensity of the influence of these different types of conjugation disturbances was compared in a series of polymers of a single class, the polyarylenepolyacetylenes, whose electrical conductivity σ and ESR spectra were measured. The introduction of various groups disturbing the conjugation into the conjugated chain was found to hinder the processes of

Card 1/2 UDC: 541.67

SLIN'KO, A. A.

130-8-18/20

AUTHOR: Slin'ko, A.A.

TITLE: Study of Railway Rail Production Experience (Izucheniye opyta proizvodstva zheleznodorozhnykh rel'sov)

PERIODICAL: Metallurg, 1957, No.8, pp. 41 - 43 (USSR)

ABSTRACT: An account is given of matters studied and comments made by an inter-works study group held at the Kuznetsk and Nizhniy Tagil' (Nizhne-Tagil'skiy) Metallurgical Combines and the "Azovstal'" Works from November 15 to December 15, 1956. The group contained representatives from the above plants and also from the imeni Dzerzhinskiy (imeni Dzerzhinskogo) Works and the Ukrainian Metals Research Institute (Ukrainskiy nauchno-issledovatel'skiy institut metallov). Shop-managers, foremen, roll-setters and rolling-mill operators represented the works. The group was divided into two sections, the first concentrating on heating technology, rail rolling and mill equipment, the second on heat treatment, finishing and quality of rails. The author gives tabulations of the main plant (Table 1) and operating (Table 2) characteristics of the rail-girder mills studied. Comments made by the group on each of the shops are summarised, as are their general recommendations. The latter include the production of low-carbon cast iron rolls ("Adamite"

Card 1/2 and "Phoenix" types), better utilisation of rolls through

Study of Railway Rail Production Experience. 130-8-18/20

improved control procedures, trial rolling of defective blooms after roll changing, recognition of serious defects of roller straightening machines of UZTM design and development of better ones, wide adoption of the Kuznetsk "floating" hot tops, standardisation of determinations of ingot temperature on charging into the soaking pits.
There are 2 tables.

ASSOCIATION: Ukrainian Metals Research Institute. (Ukrainskiy nauchno-issledovatel'skiy institut metallov)

AVAILABLE: Library of Congress

Card 2/2

SOV/137-59-1-1557

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 208 (USSR)

AUTHORS: Dyubin, N. P., Slinko, A. A

TITLE: A Summary of the Work Performed at the Interplant School for Rail Manufacture (Itogi raboty mezhzavodskoy shkoly po relsovomu proizvodstvu)

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1958, Nr 5, pp 65-75

ABSTRACT: The work of the school was carried out at the Kuznetsk and Nizhniy-Tagil Metallurgical Kombinats and at the "Azovstal'" plant. As a result of familiarization with the manufacture of rails, recommendations designed to improve the performance and quality of rails were developed. The following topics were studied: Casting of steel, shapes and dimensions of ingots, the initial soaking temperature and holding time for ingots in soaking pits and furnaces, groove design of rollers for rolling of rails, retarded cooling after rolling, improvement of the design of soaking pits, roll-changing procedures, installation of additional equipment and improvement of existing equipment, and the operation of the Technical Control Division.

Card 1/2

SOV/137-59-1-1557

A Summary of the Work Performed at the Interplant School for Rail Manufacture

Figures on productivity and quality of rails of the three plants are presented. Factors responsible for the greater production of first-grade rails at the Kuznetsk Kombinat as compared with other plants are listed.

P. G.

Card 2/2

S/137/61/000/012/080/149
A006/A101

AUTHORS: Aleksandrov, P. A., Slin'ko, A. A.

TITLE: Calibration and rolling of blanks for guide blades of steam turbines

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 7, abstract 12D46 ("Sb. tr. Ukr. n.-i. in-t metallov" 1961, no. 7, 153-164)

TEXT: When manufacturing blades from a rectangular blank by machining, about 85% of stainless steel is rejected as chips and the external high-quality metal layer is removed. Cold rolling, a process which is sometimes employed, is complicated and labor-consuming. A process was assimilated on the 550 mill for the hot rolling of double turbine blade sections, which reduced the production price by 44% and raised the factor of metal utilization by 2.5. The initial temperature of rolling is 1,050°C, the final temperature is 920 - 930°C. The initial blank has a rectangular section and tolerances in the width of ± 5 mm. From 2 tested methods of doubling the turbine blade sections the most effective one proved to be the doubling by the thick parts, assuring more uniform deformation, better filling of the grooves, and reducing the size of cut-off ends. The design of the roll-adjacent fixtures is simple; the section grooves are of

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Calibrating and rolling of blanks ...

the closed type. Cutting of the shaped sections does not present any difficulties. With the aid of high-quality hard rolls and improved heating methods, the factor of metal utilization can be raised, in the case of a shaped blank, up to 0.8 - 0.85 on account of a further reduction of allowances for machining.

B. Ilyukovich

[Abstracter's note: Complete translation]

Card 1/2

S/130/62/000/001/004/004
A006/A101

AUTHORS: Gunin, I.V., Slin'ko, A.A.

TITLE: Manufacture of a turbine blade by rolling and welding

PERIODICAL: Metallurg, no. 1, 1962, 35

TEXT: The guide blade of a 300,000-kw turbine has a complex shaped outline of 320 mm width, weighing 78 kg per 1 running meter. To save metal, reduce labor consumption and the turbine weight, a hollow blade was manufactured at the Ukrainian Scientific Research Institute of Metals by welding a special-shaped rolled blank with 2 sheets. The blank was rolled in 5 passes. The high temperature of pass 1 was utilized to produce strong non-uniform reduction of the initial blank, assuring uniform deformation during all the subsequent passes. Deformation of the strip during cooling is compensated by bending the metal to the reverse side. After cutting and machining, two 6-mm thick sheets are welded to the initial blank and the ends are welded together (Figure 1). Metal consumption as compared to a blade produced from a rectangular blank was reduced by a factor of 2.2 and labor consumption by a factor of 2. There are 2 figures.

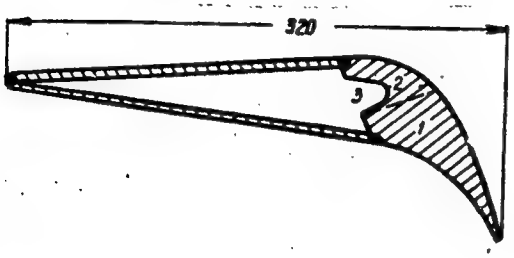
ASSOCIATION: UKRNITI

Card 1/2

S/130/62/000/001/004/004
A006/A101

Manufacture of a turbine blade ...

Figure 1: Profile of turbine blade



Card 2/2

SLIN'KO, A.A.; ALEKSANDROV, P.A.

Forced increase in width and average elongation in rolling with irregular reduction in height. Izv. vys. ucheb. zav.; chern. met. 6 no.7:106-111 '63. (MIRA 16:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.
(Rolling (Metalwork))

SLIN'KO, A.A.; PUDINOV, V.V.

Effect of the shape of the groove on metal pressure on the rolls. Izv. vys. ucheb. zav.; chern. met. 7 no.11:89-92 '64. (MIRA 17:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.

L 32460-65 EWP(w)/EWT(m)/EWP(v)/EWA(d)/EWP(t)/T-2/EWP(k)/EWP(b) Pf-4 JD/HW/EM

ACCESSION NR: AP4047166 S/0133/64/000/010/0914/0915

AUTHOR: Slin'ko, A.A. (Candidate of technical sciences); Vavilov, N.Yu. (Engineer)

TITLE: Roll pass design for wide-sectioned guiding turbine vane billets

SOURCE: Stal', no. 10, 1964, 914-915

TOPIC TAGS: hot rolled billet, turbine vane, roll pass design, temperature

ABSTRACT: The application of hot-rolled billets for the manufacturing of guiding vanes at the Khar'kov Turbine Plant (Khar'kovskiy turbinnyy zavod) resulted in a 50% saving of stainless steel and labor and a 44% cut in production cost. A special roll pass design had to be introduced to handle 18x150 mm strip. The authors recommend a diagonal arrangement of the parting lines in the initial finishing passes where sizing is most unsymmetrical, a relative reduction of area in the thin part of the strip in the finishing pass exceeding that of the thicker part by 5 to 7% so as to compensate for the roll barrel during cooling, and a maximum rolling temperature suitable for a given type of steel. Furthermore, particular

Card 1/2

L 32460-65
ACCESSION NR: AP4047166

attention should be given to the mounting and attachment of the delivery guides. Orig. art. has: 2 figures.

ASSOCIATION: Ukrainskiy n.-i. institut metallov (Ukrainian Scientific Research Metals Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NR REF SOV: 001 OTHER: 000

Card 2/2

SLIN'KO, A.A.; VOLCHEK, F.R.

Metal pressure on the rolls of a 350 continuous rolling mill.
Sbor. trud. UNIIM no.9:217-222 '64 (MIRA 18:1)

SHELEPIN, M.N.; PAUK, M.Ya.; FUNTIKOV, V.Z.; VARLAMOV, S.S.; SLIN'KO, A.G.; TOMLENOV, V.K.; ZAGNIYEV, V.M.

Saving of power in a compressor station. Prom.energ. 17 no.7:6 Jl '62. (MIRA 15:7)

(Compressed air) (Compressors)

GLAZKOV, P.G., inzh.; SLADKOSHTEYEV, V.T., kand.tekhn.nauk; TELESOV, S.A., inzh.; OFENGENDEN, A.M., inzh.; STRELETS, V.M., kand.tekhn.nauk; MURZOV, K.P., inzh.; Prinimali uchastiye: MALAKHA, A.V.; DRUZHININ, I.I.; YELISEF, A.V.; YEVTUSHENKO, V.B.; OSIPOV, V.G.; BABASHIN, Yu.Z.; SLIN'KO, A.N.; ZELENOV, S.N.; GENKIN, V.Ya.; PITAK, N.V.; VYSOTSKAYA, T.M.

Investigating the operation of multiple-pit continuous steel casting arrangements. Trudy Ukr. nauch.-issl. inst. met. no.7:133-142 '61. (MIRA 14:11)

(Continuous casting--Equipment and supplies)

MURAV'YEV, V.N.; AKHTYRSKIY, V.I.; Prinimali uchastiye: SLIN'KO, A.N.; POTANIN, R.V.; DRUZHININ, I.I.; OSIPOV, V.G.; KUCHMINSKIY, Yu.M.

Nature of the nonmetallic inclusions in flat continuously cast ingots. Sbor.trud. UNIIM no.[illegible] '65. (MIRA 18:11)

SLADKOSHTEYEV, V.T.; AKHTYRSKIY, V.I.; POTANIN, R.V.; KUCHMINSKIY, Yu.M.; SLIN'KO, A.N.; Prinimali uchastiye: GRIGOR'YEV, F.N.; DRUZHININ, I.I.; OSIPOV, V.G.; PARASHCHENKO, R.A.; KOPYTIN, A.V.; KOLESNIK, A.Ye.; KHAVALADZHI, V.I.; NOSOCHENKO, O.V.

Material balance of smelting with continuous casting. Sbor.trud. UNIIM no.11:124-130 '65. (MIRA 18:11)

LENSKIY, Yevgeniy Grigor'yevich; ZASLAVSKIY, Naum Moiseyevich; STEPANCHUK, Petr Alekseyevich; SLIN'KO, B., red.; ZELENKOVA, Ye., tekhn. red.

[Mixed brigade operating on a business accounting basis] Kompleksnaia khozraschetnaia brigada. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1960. 32 p. (MIRA 15:3)
(Kiev—Construction industry—Finance)

BURSHTEYN, Il'ya Markovich; SLIN'KO, Boris Ivanovich; KIYANICHENKO, N., red.; BABIL'CHANOVA, G., tekhn.red.

[Preparing the site for construction] Podgotovka uchastka pod stroitel'stvo. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1960. 62 p. (MIRA 14:4)
(Architecture, Domestic) (Building)

KASPIN, L.A., kand.ekonom.nauk; PAL'M, I.S., starshiy nauchnyy sotrudnik; KHORIKOV, A.N., starshiy nauchnyy sotrudnik; SHEVCHUK, Yu.I., starshiy nauchnyy sotrudnik; AKSENOV, D.G., inzh.; KL'GORT, Ye.G. Prinimali uchastiye: KARAKURCHI, M.I., kand.tekhn.nauk; KUCHERENKO, K.R., kand.tekhn.nauk; PEDAN, M.P., nauch.sotr.; POPOV, V.Ye., nauchn.sotr.; GINZBURG, S.M., inzh.; SLINKO, B., red.; ZELENKOVA, Ye., tekhn.red.

[Economic aspects of the construction of four- and five-story apartment buildings of large blocks of brick] Ekonomika vozvedeniia 4-5 etazhnykh zhilykh zdanii iz krupnykh kirpichnykh blokov. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1960. 112 p. (MIRA 14:4)

1. Akademiya stroitel'stva i arkhitektury USSR. Institut organizatsii i mekhanizatsii stroitel'nogo proizvodstva. 2. Sektor ekonomiki stroitel'nogo proizvodstva Nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii stroitel'nogo proizvodstva Akademii stroitel'stva i arkhitektury USSR (for Kaspin, Pal'm, Khorikov, Shevchuk, Aksenov, Kl'gort). 3. Nauchno-issledovatel'skiy institut konstruktsiy (for Karakurchi, Kucherenko). 4. Glavkiyevstroy (for Ginzburg). 5. Nauchno-issledovatel'skiy institut stroitel'nykh materialov (for Pedan, Popov).

(Building, Brick)

ZEMLYAK, Karp Petrovich; KUCHMARENKO, Pavel Ivanovich; SLIN'KO, B., red.; ZELENKOVA, Ye., tekhn.red.

[Manual for the construction foreman] Pamiatka brigadira-stroitelia. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit.USSR, 1960. 339 p. (MIRA 13:7)
(Building)

TURENKO, Ivan Yakovlevich; CHURIKOV, Semen Stepanovich; CHALOVSKIY, Vladimir Alekseyevich; SLIN'KO, B., red.; BABIL'CHANOVA, G., tekhn. red.

[Preventing the corrosion of concrete reinforcements] Zashchita armatury ot korrozii. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 18 p. (MIRA 14:9)

1. Akademiya budivnystva i arkhitektury URSR.
(Concrete reinforcement--Corrosion)

DOTSENKO, Nikolay Nikolayevich; SLIN'KO, B.I., red.; GRISHKO, T.I., tekhn. red.

[Construction of a precast reinforced-concrete cooling tower] Stroitel'stvo sbornoi zhelezobetonnoi gradirni. Kiev, Gosstroiizdat USSR, 1961. 39 p. (MIRA 15:7)
(Precast concrete construction) (Cooling towers)

VER, Anna Yakovlevna; PLASTININ, Arkadiy Ivanovich; SLIN'KO, B.I., red.; LEUSHCHENKO, N.L., tekhn. red.

[Petro Stepanchuk, construction worker] Budivel'nyk Petro Stepanchuk. Kyiv, Derzh. vyd-vo lit-ry z budivnytstva i arkhit., URSR, 1961. 40 p. (MIRA 15:2)
(Kiev—Construction industry)

YUDIN, Vasiliy Kliment'yevich; ZHESTKOV, S.V., kand. tekhn. nauk, dots., retsenzent; FLEYSHMAN, N.P., dots., retsenzent; SLIN'KO, B.I., red.; SERAFIN, V.T., tekhn. red.

[Design of three-dimensional frames] Raschet prostranstvennykh ram. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 141 p. (MIRA 15:3)

1. Leningradskiy inzhenerno-stroitel'niy institut (for Zhestkov).
2. L'vovskiy gosudarstvennyy universitet (for Fleyshman).
(Structural frames)

LYSENKO, Nikolay Prokof'yevich; BOREYKO, Aleksandr Vasil'yevich; YAVORSKIY, Georgiy Andreyevich; GIRSHTEL', Boris Isaakovich [deceased]; SLIN'KO, B.I., red.; NARINSKAYA, A.L., tekhn. red.

[Continuous construction of residential blocks in Kiev] Opyt potochnoi zastroiki zhilykh massivov v Kieve. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 141 p. (MIRA 14:9)
(Kiev--Construction industry) (Apartment houses)

SOSIS, Petr Moiseyevich; SLIN'KO, B.I., red.; ZELENKOVA, Ye.Ye., tekhn. red.

[Mechanization of the design of structures according to standard programs] Mekhanizatsiia raschetov sooruzhenii po tipovym programmam. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 153 p. (MIRA 15:2)
(Electronic calculating machines) (Engineering)

YELIZAROV, V.D., kand. arkh., red.; MEDVEDEV, M.I., inzh., red.; DEKHTYAR, S.B., nauchnyy red.; SLIN'KO, B.I., red.; NARINSKAYA, A.L., tekhn. red.

[Large-panel housing construction] Krupnopanel'noe zhilishchnoe stroitel'stvo. Pod obshchei red. V.D.Elizarova i M.I.Medvedeva. Kiev, Gos.izd-vo lit-ry po stroit.i arkhit. USSR, 1961. 194 p. (MIRA 14:12)

1. Akademiya budivnytstva i arkhitektury URSR. 2. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury USSR (for Yelizarov). (Apartment houses) (Precast concrete construction)

SLIPCHENKO, Pavel Stepanovich, doktor tekhn. nauk; SLIN'KO, B.I., red.; ZELENKOVA, Ye.Ye., tekhn. red.

[Earth dams] Zemlianye plotiny. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 203 p. (MIRA 15:3)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury USSR (for Slipchenko).

(Dams)

NIKOLYUK, Fedor Galaktionovich; SLIN'KO, B.I., red.; LEUSHCHENKO, N.L., tekhn. red.

[Equipment for the manufacture of prestressed concrete] Oborudovanie dlia proizvodstva prednapriazhennogo zhelezobetona. Kiev, Gosstroiizdat USSR, 1962. 65 p. (MIRA 15:8)

(Prestressed concrete)

LOBEV, B.N., doktor tekhn. nauk, prof., red.; SLIN'KO, B.I., red.; BABIL'CHANOVA, G.A., tekhn. red.

[Heating, ventilation, and air conditioning systems]Sistemy otopleniia, ventiliatsii i konditsionirovaniia. Pod obshchei red. B.N.Lobaeva. Kiev, Gosstroiizdat USSR, 1962. 86 p. (MIRA 16:2)

1. Akademiya budivnystva i arkhitektury URSR. Nauchno-issledovatel'skiy institut sanitarnoy tekhniki i oborudovaniya zdaniy i sooruzheniy.

(Heating) (Ventilation) (Air conditioning)

KOVTUN, Ivan Petrovich; LATASH, M.Ya., red.; SLIN'KO, B.I., red.; LEUSHCHENKO, N.L., tekhn. red.

[Activated mortars, concretes, and products made of blast-furnace slags] Aktivizirovannye rastvory, betony i izdeliia iz domennykh shlakov. Pod red. M.IA.Latasha. Kiev, Gosstroiizdat, USSR, 1962. 134 p. (MIRA 16:2)
(Slag) (Concrete) (Concrete reinforcement)

KIREYENKO, Ivan Andreyevich, zasl. deyatel' nauki i tekhniki Ukr.SSR, doktor tekhn. nauk, prof.; SLIN'KO, R.I., red.; LEUSHCHENKO, N.L., tekhn. red.

[Winter concreting, masonry and plastering] Betonnye, kamennye i shtukaturnye raboty na moroze. Kiev, Gosstroiizdat USSR, 1962. 271 p. (MIRA 16:2)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury Ukr.SSSR (for Kireyenko).
(Building—Cold weather conditions)

ARONOV, B.A.; RAPOTA, T.D.; ANDREYEV, G.F.; SLIN'KO, B.I., red.; LEUSHCHENKO, N.L., tekhn. red.

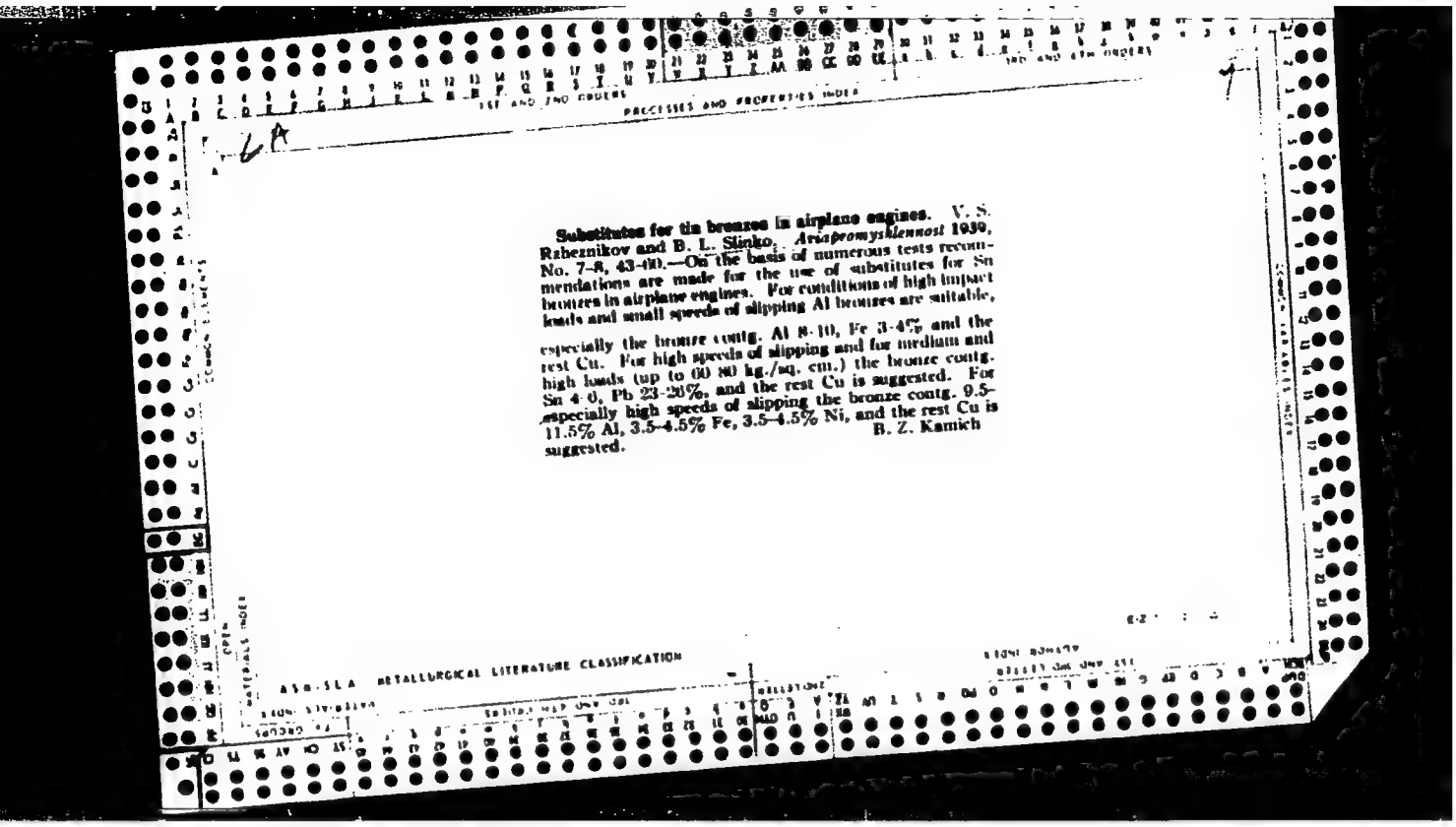
[Installation of "woodstone" floors] Opyt ustroistva ksilolitovykh polov. Kiev, Gosstroiizdat USSR, 1962. 18 p. (MIRA 16:5)

1. Akademiya budivnytstva i arkhitektury URSR. Instytut vprovadzhennia peredovoho dosvidu v budivnytstvo i tekhnichnoi informatsii.

(Floors)

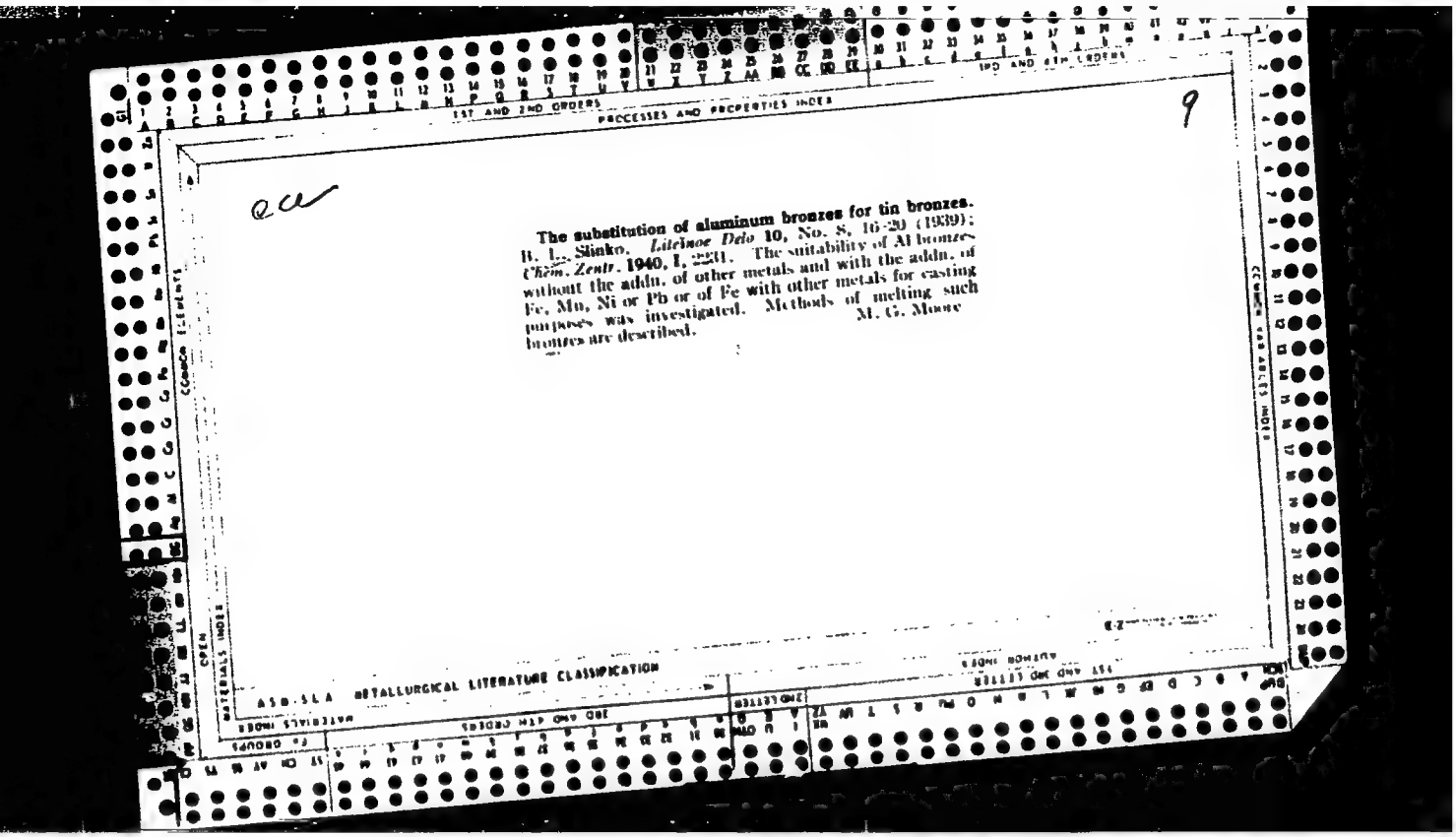
SOKOLOV, Vladimir Grigor'yevich, kand. tekhn. nauk; SLIN'KO, B.I., red.; YEREMINA, I.A., tekhn. red.

[Improving the operating qualities of asphalt-concrete pavements]Povyshenie ekspluatatsionnykh kachestv asfal'tobetonnykh pokrytii. Kiev, Gosstroiizdat, 1962. 84 p. (MIRA 16:3)
(Asphalt concrete) (Pavements)



Substitutes for tin bronzes in airplane engines. V. S. Rzheznikov and B. L. Slinko. *Aviapromyshlennost* 1939, No. 7–8, 43–49.—On the basis of numerous tests recommendations are made for the use of substitutes for Sn bronzes in airplane engines. For conditions of high impact loads and small speeds of slipping Al bronzes are suitable, especially the bronze contg. Al 8–10, Fe 3–4% and the rest Cu. For high speeds of slipping and for medium and high loads (up to 60 80 kg./sq. cm.) the bronze contg. Sn 4–6, Pb 23–26%, and the rest Cu is suggested. For especially high speeds of slipping the bronze contg. 9.5–11.5% Al, 3.5–4.5% Fe, 3.5–4.5% Ni, and the rest Cu is suggested.

B. Z. Kamich



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The substitution of aluminum bronzes for tin bronzes. B. L. Slinko. *Liteinoe Delo* **10**, No. 8, 16-20 (1939); *Chem. Zentr.* **1940**, I, 2231. The suitability of Al bronzes without the addn. of other metals and with the addn. of Fe, Mn, Ni or Pb or of Fe with other metals for casting purposes was investigated. Methods of melting such bronzes are described. M. G. Moore

SLIUNG, B. I., Tech. Cand. Tech. Sci.

Dissertation: "Study of the Defects of Lead Bronze and Their Elimination." All-Union Sci Res Inst of Aviation Materials—VIAM. 28 Mar 47.

SO: Vecherniaya Moskva, Mar, 1947 (Project #17836)

D'YACHENKO, P.E., professor; SLINKO, B.L., kandidat tekhnicheskikh nauk.

Atoms and machines. Znan. sila no.5:1-3 My '53. (MLRA 6:6)
(Machinery--Maintenance and repair)

VINOGRADOV, N.R. [deceased]; YEMELIN, A.A.; RZHEZNIKOV, V.S.; SLINKO, B.L.

Manufacturing bearings with reticular surface. Tren.i izn.mash.no.7: 164-174 '53. (Bearings (Machinery)) (MLRA 9:9)

SLINKO, B. L.

TJ1160.A34 TREASURE ISLAND BOOK REVIEW AID 856 -S

SLINKO, B. L., A. A. YEMELIN and P. YE. D'YACHENKO
PRIMENENIYE RADIOAKTIVNYKH IZOTOPOV DLYA OTSENKI IZNOSA DETALEY MASHIN (The use of Radioactive Isotopes for Determinatin of the Wearability of Machine Parts). In Akademiya Nauk SSSR. Peredovoy opyt novatorov mashinostroyeniya (Progressive Experience of Leading Men in the Machine-Building Industry) 1954. Part I: Skorostnyye metody mekhanicheskoy obrabotki metallov (High-Speed Methods in Machining of Metals). p. 87-102.

The authors describe in detail the use of radioactive isotopes and the Geiger counter for determination deterioration of parts of a machine in operation. The selection of proper isotopes, the methods of their introduction into the part to be examined, the process of analysis and the method of calculation of the part's wearability are described. The authors outline numerous advantages of the method, and make several recommendations for further development. Nine drawings, diagrams and 1 table.

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SOV/137-57-6-11154

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 252 (USSR)

AUTHORS: D'yachenko, P.Ye., Slinko, B.L., Yemelin, A.A.

TITLE: Utilization of Radioactive Isotopes in Evaluating the Wear of Machine Parts (Primeneniye radioaktivnykh izotopov dlya otsenki iznosa detaley mashin)

PERIODICAL: V sb.: Povysheniye dolgovechnosti mashin, Moscow, Mashgiz, 1956, pp 177-193

ABSTRACT: The advantages of the radioactive-tracer (RT) method over other methods for the evaluation of the wear (W) of machine parts is noted, the main advantage being the feasibility of measuring W without dismantling a machine. The measurement of the magnitude of W is done by measuring the radioactivity of the oil by means of; a) placing the counter directly in the stream of oil in the oil conduit, b) placing the counter outside the oil conduit, and c) regular sampling of the oil from the oil conduit. The organization of the investigations and monitoring for qualitative and quantitative evaluation of the magnitude of W is described. The methods for the introduction of RI into the rubbing parts are examined, the technique for the application of

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SOV/137-57-6-11154

Utilization of Radioactive Isotopes in Evaluating the Wear of Machine Parts

electrolytic coatings of Cr, Ag, In, and Zn onto the rubbing surfaces and the method for radioactive insertions which serve as tracers for the W are adduced. Experimental data are given on the monitoring of the W of a graphite layer on an Al piston using the RT Zn^{65} and also the dependence of the W of bimetallic bearings (steel - Ag) and of bearings with a Pb-In coating on the magnitude of the load and the number of revolutions of the rod. It is established that bearings with a Pb-In coating wear in more quickly than bimetallic bearings. The authors note the great difficulties in the employment of the RT method for the quantitative evaluation of W.

L.P.

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SOV/137-57-10-20497

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 302 (USSR)

AUTHOR: Slinko, B. L.

TITLE: Monitoring of the Wear of Machine Parts by Means of the Accumulation of the Products of Wear in the Filter (Kontrol' iznosa detaley mashin po nakopleniyu produktov iznosa v fil'tre)

PERIODICAL: V sb.: Izuch. iznosa detaley mashin pri pomoshchi radioaktivn. izotopov. Moscow, AN SSSR, 1957, pp 94-99

ABSTRACT: A description of the method for the investigation of wear (W) of machine parts by the accumulation of the products of the W in a fine filter (F). A specially designed F containing a Geiger counter is connected to the flow of lubricant discharged from the machine, which contains the radioactive products of W. The counter is connected through an instrument which is attached to a recording galvanometer for the automatic recording of the wear curves. The dimensions of the F are selected in accordance with the rate of lubricant flow. A plan for an experimental unit is adduced, and the description of an F design is given. Investigations of F showed that the best material for a tubular filtering element is 8 - 10 mm

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Monitoring of the Wear of Machine Parts (cont.)

thick felt. During the operation of such an element the coarse W particles are retained on the outer surface of the filtering element, the finer particles are caught in the thickness of the felt, while the finest ones "seep through" and circulate within the oil flow. The indicator of the effectiveness of the work of the F is the ratio of the activity of the retained particles to the activity of the particles that pass through it. This is determined when the work of the F is checked. The author points out that if the filtration-flow capacity of the F is less than the volume of the lubricant discharged from the machine it is necessary to install into the flow several F connected in parallel because the installation of a single F parallel to the flow of the lubricant lowers the precision of the evaluation of the amount of the products of W. Data are adduced on the testing for W of bearings filled with B-83 grade babbitt. For the quantitative evaluation of W the activity of precisely weighed amounts of products of W which were prepared artificially is determined under the same conditions. The method proposed affords the determination of the amount of the products of W with precision of up to 10% which is within the margin of error of the experiment. The author points out that owing to a number of advantages (small doses of the isotope which are safe to work with, and others) the above-described method can be widely used in machine shops for the purpose of monitoring the W at points of friction.

L. G.

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SLIN'KO, B.L.

122-2-29/33

AUTHOR: Draygor, D.A., Candidate of Technical Sciences

TITLE: The Third Scientific and Technical Conference in Kiyev on the Improvement of the Wear Resistance and Service Life of Machines (Tret'ya Kiyevskaya nauchno-tekhnicheskaya konferentsiya po povysheniyu iznosostoykosti i sroka sluzhby mashin)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, No.2, pp. 81-82 (USSR).

ABSTRACT: The conference was organised by the Kiyev region of the NTO Mashprom (The Scientific and Technical Organisation of the Mechanical Engineering Industry) and by the Institute of Mechanics of Building Structures, Ac.Sc. Ukrainian SSR (Institut stroitelnoy mekhaniki AN USSR). 430 delegates representing the major institutions of the Ac.Sc. USSR and of the Ukrainian SSR, the specialised research agencies and the large Soviet plants heard and discussed 90 papers devoted to the study of the mechanism of disintegration of surface layers in machine components and to new methods of improving the wear life of components.

In a paper by Academician S.V. Serensen, entitled "Endurance Related to Wear and Fatigue", a survey of Russian and foreign studies was given with emphasis on fatigue failures caused by wear, both as a result of the mechanical consequences due to

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The Third Scientific and Technical Conference in Kiyev on the Improvement of the Wear Resistance and Service Life of Machines

unequal wear and the formation of clearances in assemblies and as a result of a change in the physical and chemical condition of contact surfaces.

R.D. Grozin, Corresponding Member of the Ac.Sc. Ukrainian SSR, in a paper entitled "The Complex Method of Analysis of Components Working Under the Conditions of Rolling Friction" presented a method which includes the combined use of electron microscope, X-ray diffraction and spectroscopic analyses to judge the condition of the surface layers in association with wear tests and static mechanical tests under tri-axial non-uniform compression at different temperatures. It is claimed that with the help of this method, the relation between the contact endurance strength of steel and the factors defining the condition of the surface can be established.

In a paper "On Temperature Measuring Methods in the Friction Process between Solid Bodies", by S.A. Sukhov, Candidate of Technical Sciences, a method for measuring the temperature gradients in the immediate vicinity of the friction surfaces with the help of a natural thermocouple was presented. Both sliding bodies (pin and ring) are made of the same material, but the pin end face is covered with a thin layer of another metal

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which constitutes the natural thermocouple of which one junction is the sliding surface and the other is the bond between the pin face and the coating metal.
Great interest was aroused by the paper "The Variation of Wear Resistance of Certain Anti-friction Alloys under Nuclear Radiation" by B.L. Slin'ko. Precipitation-hardening alloys (beryllium copper G2 and nickel silicon bronze Bp. KH 1-3) have their strength and wear resistance increased by nuclear radiation. Alloys changing their properties mainly as a result of phase transformations and having a higher re-crystallisation temperature change their properties insignificantly.
In a paper "Foundations of the Cavitation-erosion Failure of Ferrous Alloys", I.N. Bogachev, Doctor of Technical Sciences, and R.I. Mints, Candidate of Technical Sciences, generalised the studies of the effect of the chemical and phase composition of iron carbon alloys on their cavitation erosion resistance. Increasing the carbon content from 0.023 to 1.2% improves the erosion resistance. The effect of alloying is due solely to the metallographic structure obtained. A pronounced improvement of erosion resistance is obtained in spheroidal graphite cast iron

PHASE I BOOK EXPLOITATION SOV/3604

Akademiya nauk SSSR. Institut mashinovedeniya

Povyshenlye effektivnosti tormozyashch ustroystv. Svoystva frikcionnykh materialov (Increasing the Efficiency of Braking Devices. Properties of Friction Materials) Moscow, Izd-vo AN SSSR, 1959. 183 p. Errata slip inserted. 1,800 copies printed.

Resp. Ed.: V.S. Shchedrov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: F.N. Belyanin; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for engineers and scientific workers specializing in brakes and friction materials.

COVERAGE: The first group of articles deals with basic design measures for increasing the life and efficiency of brakes, the second group with problems related to the development and fields of application of new friction materials, the third group with testing methods and the results of investigations of friction pairs and brakes, and the fourth group with the design of brakes and calculation data. No personalities are mentioned. References accompany most of the articles.

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